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AUTHOR Wood, Richard J.
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ABSTRACT

Pertinent general and library specific stress studies are reviewed to demonstrate the importance and benefits of keeping job stress within healthy (normal) levels in libraries. Studies are cited to show the potentially adverse impact of stress on individuals and organizations, generally, and librarians and libraries, specifically. The results of a study based on Hallberg's "Stress Survey" that was sent to academic librarians in the Southeastern Library Network (SOLINET) region are presented. Six types of stress criteria (time, task perfection, control over the job, competition, change, and physical symptomology) were used to evaluate such positions as library directors; acquisition librarians; catalog librarians; reference librarians; serial librarians; and others. The impact of technological, environmental, organizational, and other factors is also discussed. The preliminary research study found no evidence of unhealthy stress levels among the college librarians in the nearly 40 academic libraries surveyed. However, library literature indicates that changes in the work environment, automation, or other factors are perceived to be factors that are causes of high job stress and burnout. It is recommended that the effects of such changes and working conditions be carefully monitored and studied. (45 references) (Author/MAB)

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STRESS AMONG ACADEMIC LIBRARIANS AND LIBRARY DIRECTORS

Richard J. Wood, Ph. D.,

Richard Wood is Director of Library Services, Sam Houston State University, Huntsville, Texas and, at the time of the study, served as Director of Library Services at Daniel Library, The Citadel, Charleston, South Carolina. The author wishes to thank Aquila Lipsomb, Assistant Professor, Mathematics and Computer Science Department, The Citadel, for his statistical and research assistance. Special thanks is also extended to Margie Gadsden, graduate assistant and Sandra Haworth, Administrative Assistant for record keeping, typing and clerical assistance.

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ABSTRACT

Pertinent general and library specific stress studies are reviewed to demonstrate the importance and benefits of keeping job stress within healthy (normal) levels in libraries. Studies are cited to show the potentially adverse impact of stress on individuals and organizations, generally, and librarians and libraries, specifically. The results of a study based on Hallberg's Stress Survey that was sent to academic librarians in the SOLINET region are presented. Six causes of stress among six different types of librarian classifications are examined. The impact of technological, environmental, organization, and other factors is also discussed.

INTRODUCTION

Public interest has heightened since 1936 when Hans Selye first identified the term stress and linked the phenomena to many physical, mental, emotional and occupational problems. Asterita estimates, based on a review of research studies, that stress may be linked to between 75 and 90 percent of all diseases prevalent in western society today.[1]

Although the public may believe that librarians work in a nearly stressless environment and that their stress level is low compared to that of medical doctors, police, or air traffic controllers, more and more articles have appeared in library literature that indicate mounting concern about the impact of automation, publication requirements, and other variables on stress among academic librarians.

STRESS LITERATURE IN OTHER DISCIPLINES

Experimental research on the effects of stress among librarians was initiated only during the 1980's and provided no scientifical support as to the specific impact of technological, organizational, environmental or other variables on librarians. Relevant medical and other literature must, therefore, be examined to determine the implications for academic librarians.

Stress research by medical researchers, psychiatrists, psychologists, social scientists, physical educators, and health professionals evolved differently in each of these disciplines

based upon specific concerns. The research examined in these fields supported a view of stress that was interdisciplinary, relational, transactional and multilevel in nature.

Hans Selye provided the earliest (1936) medically accepted definition of stress: "the state manifested by a specific syndrome which consists of all the nonspecifically induced changes within a biologic system."[2] These changes were contractions or secretions of muscles or organs produced by a medically or physically inexplicable, nonspecific cause. Selye called this state the General Adaptation Syndrome that was manifested by alarm reaction, resistance, and exhaustion.[3] Selye's seminal work also discussed the implications of stress on nervous, mental, metabolic, digestive and other diseases.

Spielberger calls "trait" anxiety or stress that which is characteristic of a person over time, as opposed to a particular time or situation.[4] Each person, for example, reacts to changes in institutional policy, job requirements, working environment, or other life events with characteristically low to high stress depending upon his or her emotional outlook, religious beliefs, social support systems, and personality.

Hallberg publishes a sixty question Stress Schedule to determine whether a person is in a state of "exstress," "normal," or "below normal" stress.[5] Persons scoring in the normal stress range are able to cope with events successfully without mental, emotional, or physiological problems. Hallberg defined stress overload as exstress which is potentially dangerous.

Exstress was very early (1950) associated with nausea, headaches and diarrhea by Almy, Kern and Abbott[6] and with sleepiness and a sense of depression (1932) by Cannon.[7] Migraine headaches and high blood pressure, even arthritic pain, have been found to be stress-related by Benson.[8] Both Selye and Solomon et. al. reported that highly stressed persons have fewer lymphocytes within their immune systems and have a tendency, then, to be more vulnerable to various viruses and diseases.[9]

Solomon linked stress to cancer, rheumatoid arthritis, systemic lupus erythematosus, myasthenia gravis, acquired hemolytic anemia and pernicious anemia.[10] Hackman noted that consequences of high stress included avoidance, inaction, withdrawal, escape, submission, distortion, or aggression, hostility and attack.[11] Understress resulted in higher levels of catecholamines which produced greater chance of heart disease.[12]

The study of the complex interrelationships between the work environment and employees' emotions, coping patterns, physical health and personality requires library researchers to develop complex, longitudinal studies.[13] Librarians may find the results of several studies about the impact of stress in the workplace especially relevant.

Employees who score below the normal stress range, Hallberg contends, may be unproductive although his instrument is not a measure of productivity.[14] Low stress may be correlated with low participation in decision-making, other studies notwithstanding, because low participation reduced person-environment misfit.[15]

Jayaratne and Chess explained in their study of social workers why stress indicators such as role ambiguity, workload and role conflict do not play a significant role in either the assessment of job satisfaction or burnout.[16] This finding was in direct conflict with other research that showed job burnout to be highly related to role conflict, role ambiguity, workload, and other variables.

Benson described how the inability to meet deadlines or responsibilities, a change in rules, supervisory practices, work hours, working conditions or countless other stressful situations may cause the "fight or flight" response and led to heart or other diseases.[17] Quick found that employees who were under high stress had worse absentee, accident, burnout, turnover, and performance rates than employees who experience normal stress.[18]

As early as 1908, researchers discovered that performance improved with increased stress up to an optimal point.[19] Spielberger's collection of research reports focused on the positive effect of anxiety and stress on the individual's drive system which provided motivating information or signals when it was operating.[20]

Maddi and Kobasa's research showed that executives who scored in the high stress range on life event checklists but scored low on illness checklists had a high personality hardiness score. Their low stress was attributable to a healthy family atmosphere involving a varied environment including the performing of many medium difficulty tasks, expression of the importance of individuality, and diversity.[21] Their study also showed that

hardy people found a stressful event intriguing and challenging. They felt confident and positive that they influenced the outcome of a highly stressful event. This was transformed into some less stressful form to protect their health.[22]

French, Caplan, and Harrison's study of 318 white male, blue collar workers randomly selected from a sample of 2010 employees in 23 occupations revealed the following:

1. Those occupations that were expected to show high (air traffic controllers) or low objective stress and strain (professors and scientists) tended to show high and low corresponding subjective dimensions of stress such as boredom, irritation, and workload dissatisfaction.
2. Professional workers who had more complex work than blue collar workers were less strained than blue collar workers who had simple tasks even though both groups experienced excessive work loads.
3. Supervisors also had more job stress as manifested behaviorally, psychologically or physiologically.[23]

This study illustrated the importance of matching employees to fit the responsibilities of the job and the job environment. Thus, job stress increased to the degree that the employee's personal abilities, expectations, and goals did not match with the organization's expectations, compensations, or demands.

Stress in Ursin's research report was found to be a function of both how men evaluated their status and interaction in stressful situations and which signals sent by their coworkers or bosses the

men selected.[24] Five factors that emphasized the interactive nature of stress in individuals with the environment were identified as follows:

1. Wealth of available social support systems and other resources for coping.
2. Attitudes toward stress such as fear or harmfulness and controlability.
3. Prior experience with stress sources.
4. Risk assessment, and
5. Stress vulnerability.[25]

Employees experienced stress when they felt compelled to cope with fears of negative labelling or losing status among coworkers. This underscored the importance of providing positive feedback to employees.

LIBRARY LITERATURE

Library stress literature was limited to general discussions and observations until the early 1980's. Prior to then, most of the library stress literature. Despite a few recent research studies, librarians have little statistically valid or scientific research about the impact of stress on librarians.

Tina Roose found that 42 percent of the reference librarians she sampled experienced high stress and job burnout due to their adverse work environment such as lack of private offices, job demands, clientele and constant interruptions. Fourteen percent of those studied were severely burned-out. These librarians had

experienced headaches, flu, chronic psychological tensions, drug abuse, and personal or interpersonal problems.[26]

Neville contended that academic reference librarians and service staff were stressed because they were increasingly accountable for providing information services in an organization that was still collection oriented.[27] Such employees were faced with demands that they could not meet and experienced job stress and burnout. Neville added that library "management and administration literature contained numerous references to the general problem of job stress and individual coping strategies."[28]

Library employees have generally expected library administrators to experience high stress because administrators bear most of the burden for planning, procuring, preparing, and budgeting. This expectation was consistent with the conclusion of French, Caplan and Harrison who found that administrators at the Goddard Space Center were subject to different sources of stress than the scientists and engineers. Administrators' stress was caused more by too much work (number of hours) as opposed to individual task demands for engineers and scientists.[29] This study of different levels of stress not only among occupations but also in <u>sources</u> of stress within occupations led to the research reported here.

Ostler and Oon's case study at Brigham Young University concluded that stress among the academic librarians increased in frequency and duration.[30] They based their study on Charles Bunge's study that used sources of stress such as coworkers, patrons,

workload, management, schedules, lack of positive feedback, lack of training, feelings of being pulled and tugged, technology and equipment, physical facilities, bureaucracy, unchallenging work, uncertainty or feeling of failure, and lack of budget or resources.[31] In the study by Bunge, more stress was caused by patrons and dealings with supervisors than in the Brigham Young University study. Bunge agreed that controlling stress in the library was a balancing act between demands and resources and emphasized strategies to minimize burnout and exstress.[32]

Smith and Nielson's 1982 survey used the Forbes Burnout Survey and a series of background questions to survey 262 academic reference librarians. They concluded that all subjects experienced some stress but very few experienced burnout to the degree other professions do.[33] Guttsman believed that a university library's subject specialization structure caused organizational stress and conflict situations for senior librarians who acted as subject specialists responsible for book selection and acquisition, as well as other major administrative duties.[34]

Benedict and Fimian used a modified teacher burnout survey to study burnout among media specialists in North Carolina. They found three sources and three manifestations of stress. Media specialists scored in the moderate burnout range although many scored from very low to very high. Their study identified variables relevant to the study of stress among academic librarians. "Lack of professional support" was one variable that included lack of appreciation and understanding for work done, lack

of promotion and advancement opportunities, having a superior who did not understand what librarians do, lack of decision-making power, and feeling isolated from other professionals at work. "Instructional trade-offs" was a measure of stress due to teaching poorly motivated or disciplined students, lack of instructional time, and too much clerical work. "Time and work load management" was a highly relevant stress source that included factors such as not having time to get things done or to enjoy the day, caseload, and interruptions.[35]

In light of Jones' recent study on library support staff, however, we cannot be so certain that changes in workload, staffing, workflow, procedures, and policies due to technological advances in libraries impact adversely on library staff. Jones' 1988 survey of 133 support staff in three academic libraries revealed that support staff overwhelmingly believed that automation was positive and made their jobs easier. More participants in her study checked all positive (51) than negative (13) terms from a list of nine words.[36] The majority did not believe that they were expected to learn too many new things too fast.[37] The majority (104) felt that the introduction of new technology was, in fact, either too slow (51 cases) or just right (53 cases). [38] Lack of involvement in decision-making concerning the incorporation of new technology into the work place did not prevent staff from maintaining a high positive attitude toward automation despite a strong undercurrent of personal frustration and irritation.[39]

Scamell and Stead's exploratory study did not reveal any

statistically significant correlation between assertiveness and role ambiguity or conflict, factors which many research studies say cause exstress.[40] They found no evidence that technological change has a negative impact on role stress for non-assertive employees. Nevertheless, Nauratil contended that librarians generally may be not only be underpaid, unappreciated, and unrecognized, but also misunderstood by people in a world that she characterized as threatening and challenging the librarians' roles as social good agents.[41]

RESEARCH METHODOLOGY

Survey Instrument

Using Hallberg's Stress Schedule, stress was studied among academic librarians in the SOLINET region. Hallberg's manual fully described his instrument's development, norming procedures, reliability, validity, administration, and interpretation. Test/retest reliabilities indicated a correlation coefficient of r. = .80. A validity study by Hallberg comparing the instrument with the well-known and long established Holmes & Rahe Social Adjustment Scale indicated a validity coefficient of r. = .43, indicating both some direction and some degree validation..[41]

Hallberg's instrument is unique because each of sixty questions relates to one of six stress criteria: time, task perfection, control over the job, competition, change, and physical symptomology. Subjects may have a low, normal, or high level of stress in each type of stress. No other instrument

mentioned in any edition of Buros' Mental Measurements Yearbook had this capability.[43] Hallberg's numerous administrations of the survey over many occupations show that overall stress levels do not differ much and is normal from one occupation to another. Thus, it is appropriate in studies such as this to administer the survey to identifiable groups for purposes of comparing stress scores.

For each of the six criteria, Hallberg developed ten statements that subjects must respond to in terms of agreement or disagreement. Points are assessed for each response to the statements that relate to each stress criterion. An example is a "control" statement such as "I seem to be losing control of myself" to which subjects agree, strongly agree, disagree, or strongly disagree. Hallberg explains that employees who strongly agree may take on unrealistic tasks and responsibilities. Similarly, employees who score high on competition may strive too hard to get ahead at any cost and set unrealistic expectations for themselves. Other employees experience high stress when they feel compelled to complete tasks as perfectly as possible but meet up with problems they cannot control. High stress due to change may result for employees who cannot "go with the flow." Other questions point-up symptoms or manifestations of stress such as depression, drug abuse, headaches, or sleepiness. The last criteria, time management, is a pressure almost everyone feels when they complain that they never have enough time to complete their tasks.[44]

Sample

A non-random sampling technique was used in order to assess stress among an identifiable or recognizable population, e. g., college librarians. The population was further limited to the eleven state SOLINET/OCLC region because this was felt to be a readily identifiable area of the United States. The study was limited by the number of subjects dui to financial constraints.

Library and college directories were used to select the actual institutions.[45] All of the institutions of higher education that met particular size, enrollment, and library criteria were selected from the eleven state SOLINET region. The institutions selected were essentially liberal arts colleges that granted bachelor and master degrees. From these over 300 possible institutions, those institutions that had a student enrollment of between 1500 and 6000 students were selected. The sample was further narrowed if the libraries at these roughly 250 institutions employed from four to thirteen librarians and had book collections of between 150,000 and 400,000 volumes. From the remaining 123 institutions, 37 were chosen at random.

A librarian at each of these institutions was contacted in order to verify the directory information and as the contact to whom the surveys could be mailed. Two hundred and two survey forms with instructions were mailed to these 37 contact persons. Participation in the study was limited to library directors and librarians who could be classified as acquisition, catalog, reference, serial and/or documents, or other librarians.

This non-random sampling technique was employed to limit the

study to a somewhat homogeneous group that many persons may call "college librarians," as opposed to university, research, community college, or public librarians. The main rationale for this was that institutions granting Ph. D. degrees, for instance, would have completely different service and collection development goals from essentially four-year and master degree level institutions. Employment of such a non-random methodology, however, limited the analysis of data to descriptive statistics. SPSS-X was used to compute the results.

ANALYSIS OF DATA

There were 162 usable responses out of a potential of 202 academic librarians in the eleven SOLINET member states who received the stress survey. Librarians at 27 academic libraries responded. This was a response rate of 80 percent. Participants were categorized by library positions as follows:

Type of librarian	Sex
27 library directors;	19 male, 8 female
19 acquisition librarians;	7 male, 12 female
37 catalog librarians;	14 male, 23 female
59 reference librarians;	16 male, 43 female
8 serial librarians;	3 male, 5 female
12 other librarians;	6 male, 6 female

"Other" librarians could not be characterized into one of these types.

The average stress score for all librarians in this study was

183.08 (185.7 for males and 180.5 for females). The norm for the 4,387 in Hallberg's sample of individuals in 27 occupations was 178. Comparison of the scores (sample norms) by type of stress for librarians in the study sample with Hallberg's overall data for the over 4,000 cases that he normed was the key data reported below.

Sample norm	Type	Hallberg's Normal range
32	Control vs. responsibility	20 - 38
28	Time management	27 - 37
25	Task orientation with perfection	25 - 37
28	Competition	28 - 38
36	Change	20 - 30
34	Physical symptomology	19 - 31
178	Overall stress score (norm)	158 - 205

A lower than normal range score indicated high stress; a higher score indicated low stress. Only 15 of the 162 librarians scored in the exstress range and 14 in the low stress range.

The academic librarians surveyed in this study scored overall in the average stress range (in fact at Hallberg's median score.) The difference in scores between the sample and Hallberg's overall results, therefore, was not statistically significant.

Hallberg found that dentists, dentists' wives, endodontists, endodontists' wives, teachers, missionaries, hospital managers, computer programmers, computer science managers, school administrators, staff and counselors had average stress scores in

this normal range. Members of these occupations or professions constituted Hallberg's norm group. As a result of this research study, academic librarians were added to Hallberg's norm group.

Stress caused by lack of control over job responsibility, time management, competition, and task orientation with perfection (first four categories) was within the normal range for the librarians in the study sample. Librarians in the sample felt that they had control over their jobs and did not take on unrealistic task responsibilities. These academic librarians did not compete with others to get ahead at the cost of stress for themselves. However, stress due to competition, strangely, bordered (27.69 norm) on exstress.

Future stress research should examine the area of stress due to competition. Perhaps the competition that academic librarians experience is more internal as evidenced by agreement with survey statements such as "I have a hard time accepting my mistakes," "Each day I try to do more things than I should," and "I don't like to get behind schedule." Such statements imply that internal competition is our own worst enemy.

Librarians in the sample scored in the low range for stress due to change. This was an indication of job satisfaction rather than burnout. Life for these librarians was not changing faster than they adjusted. Rather, life was not changing fast enough. As Jones' concluded for library support staff, these librarians embraced technological changes wholeheartedly.

This finding did not support the common notion that stress

results from changes in the work environment, technology, publication requirements, or management. In this study, over 140 librarians in the sample disagreed, or strongly disagreed with such statements as "I require a new job every two years," "too many changes in my life really bother me," and "when I look in the mirror I dislike the person I see." Many of the same respondents, moreover, agreed with the statement "I wish I had more adventure in my life." Further research may be needed to determine if librarians typically seek change, or adventure, only outside of the jobs which they typically look to for stability and security.

The data revealed that the participating librarians experienced few physical symptoms of stress. The majority of librarians disagreed that they "get mad easily," "could eat all day," "seem uptight," "have trouble catching my breath," or "feel tired most of the time." Symptoms such as binge eating, sleepiness, nausea, diarrhea, migraine headaches, high blood pressure, or depression, therefore, were not expressed among these academic librarians. This evidence of low stress revealed by physical symptoms was in direct contradiction to Roose's study cited earlier for reference librarians.

Although the norm for time management stress in the sample fell within the normal range, closer examination of the distribution of scores revealed some concern. Nearly a third (50 of the 162) of the librarians clearly experienced exstress due to time demands while only 7 librarians (5 directors, 2 librarians) experienced low stress. The 50 librarians agreed or strongly

agreed that "There is isn't enough time in a day," "I don't have control over my time," or "I feel time is passing me by."

CONCLUSIONS/IMPLICATIONS

The literature cited shows that library administrators and supervisors need to keep job stress at a healthy (normal) levels not only to optimize productivity, attendance, and efficiency but also to prevent or minimize serious health consequences. The research in other fields supports this conclusion. This preliminary research study finds no evidence of unhealthy stress levels among the college librarians in the nearly forty academic libraries surveyed.

Library literature on the effects of stress, on the other hand, is not as clear. It is assumed that much of what the stress research establishes for employees in business, industry or public institutions is true of librarians. Both literatures provide alarm that changes in the work environment, automation or other factors are reason for immediate concern.

It may be more accurate to say that many authors <u>conjecture</u> as to the effects of poor office conditions for reference librarians, the effects of increased technology, etc. Experimental research is needed to confirm such studies and to establish whether there is a statistically significant, positive correlation between stress and variables such as public service demands, promotion or tenure requirements, and the introduction of new technologies. Hundreds of experimental studies that isolate such variables among the many

different types of librarians and libraries need to be conducted until statistically valid conclusions can be drawn.

The author's preliminary research does not reveal overall exstress nor significant differences in stress among academic librarians by positions or cause of stress. Adding a couple of other studies that also come to this conclusion, there is little reason to suspect that technological, work environment, personnel requirements, organizational structure, promotion requirements, or other factors are causing significant levels of exstress among academic librarians in the SOLINET region. There is a "fit" between academic librarians' job responsibilities, work environment, and job requirements.

The literature cited does, nevertheless, suggest that the effects of such changes and working conditions should be carefully monitored and studied because there is a perception that such factors are causing high job stress and burnout. Finally, future researchers may want to consider further use of Hallberg's Stress Survey as a statistically sound instrument to monitor or measure stress among academic librarians. If a similar research design is used to measure differences in stress by the librarians' positions, however, it is advised that a larger, random sample of librarians be used so that the cells of a six-way or larger table could be filled and more powerful, crosstabs and nonparametric tests or statistics can be used to analyze the data.

REFERENCES AND NOTES

1. Mary F. Asterita, The Physiology of Stress (New York: Human Sciences, 1985), xv.

2. Hans Selye, The Stress of Life (New York: McGraw Hill, 1956), 52-67.

3. Ibid. passim.

4. Charles D. Spielberger, "Theory and research of anxiety." Anxiety and behavior (New York: Academic Press, 1966), 319.

5. Edmond and Kaylene Hallberg, Preliminary Stress Schedule Manual, Form LP (Sierra Madre, Ca.: Ombudsman Press, 1986). This continually revised, loose leaf manual contains a copy of the survey instrument and thermometer, as well as the procedures, analysis, and results of research.

6. Thomas Almy, Fred Kern, and Frank K. Abbott, "Constipation and diarrhea and reactions to life stress," Proceedings of the Associations for Research in Nervous and Mental Disorders. 29: 724-31 (1950).

7. N. B. Cannon, The Wisdom of the Body (New York: Norton, 1932), 352.

8. H. Benson, The Relaxation Response (New York: Morrow, 1975).

9. Selye, The Stress of Life, passim, and G. F. Solomon, A. Amkraut, and P. Kasper, "Immunity, emotions and stress," Annals of Clinical Research, 6:313-322 (1974).

10. Solomon, "Immunity, emotions and stress," passim.

11. J. R. Hackman, "Tasks and task performance in research on stress," in J. E. McGrath (ed), Social and Psychological

factors in Stress (New York: Holt, Rinehart and Winston, 1970)

12. M. Frankenhaeuser, M. and B. Gardell, "Underload and overload in working life: Outline of a multidisciplinary approach," Journal of Human Stress, 2.3: (September 1976) 35-46.
13. R. S. Lazarus, et. al., "Psychological stress and adaptation: Some unresolved issues," Hans Selye Selye's Guide to Stress Research (New York: Van Nostrand Reinhold, 1980) 113.
14. Hallberg, Preliminary Stress Schedule, 16.
15. John R. French, Robert Caplan and R. Van Harrison, The Mechanisms of Job Stress and Strain (New York: Wiley, 1982), 115-6.
16. Srinika Jayaratne and Wayne A. Chess, "Job satisfaction and burnout in social work," in Barry A. Farber (ed), Stress and Burnout in the Human Service Professions (New York: Pergamon, 1983), 135-7.
17. Benson, Relaxation Response.
18. James C. Quick, Organization Stress and Preventive Management (New York: McGraw Hill, 1984) 82-88.
19. Robert M. Yerkes and John D. Dodson, "The Relation of Strength of Stimulus to Rapidity of Habit-Formation," Journal of Comparative Neurology and Psychology 18: 457-482 (1908).
20. Spielberger, "Theory and research of anxiety," 85-87, 103-4, 291-326.
21. Salvatore R. Maddi and Suzanne C. Kobasa, The Hardy Executive: Health Under Stress (Homewood, IL: Dow Jones-

Irwin, 1984).

22. Ibid. 30-5.

23. French, Mechanisms of Job Stress and Strain.

24. Holger Ursin, et al, Psychobiology of Stress; A Study of Coping Men (New York: Academic Press, 1978) 156-158.

25. A. Baum, J. E. Singer and D. S. Baum. "Stress and the environment," Journal of Social Issues 37.1 (Winter 1981) 4-35.

26. Tina Roose, "Stress at the Reference Desk." Library Journal 114: 166-7 (September 1, 1989).

27. Sandra H. Neville, "Job stress and burnout: Occupational hazards for services staff," College and Research Libraries 42: 242-247 (May 1981).

28. Ibid. 243.

29. French et al, Mechanisms of Job Stress and Strain.

30. Larry J. Ostler and Jin Teik Oon, "Stress analysis: A case study," C & RL News 50: 587-590 (July/August 1989).

31. Charles Bunge, "Stress in the library," Library Journal 12:47 (September 1987).

32. Charles Bunge "Stress in the library workplace," Library Trends, 38:92-102 (Summer 1989).

33. Nathan M. Smith and V. C. Neson, "Burnout: A survey of academic librarians, College and Research Libraries 44:345- 6 (May 1983). See also Nathan M. Smith and Laura. F. Nielson, "Burnout: a survey of corporate librarians, Special Libraries, 75:221-227 (July 1984).

34. W. L. Guttsman, "Subject specialisation in academic libraries: Some preliminary observations on role conflict and organizational stress," Journal of Librarianship 5:1-27 (January 1973).

35. Sandra A. Benedict and Michael J. Fimian, "Occupational stress reported by library media specialists," School Library Media Quarterly 82-86 (Winter 1989).

36. Dorothy E. Jones, "Library support staff and technology: Perceptions and opinions." Library Trends. 37:436 (Spring 1989).

37. Ibid. 442.

38. Ibid. 443.

39. Ibid. 449

40. Richard W. Scamell and Bette Ann Stead, "An assessment of the relationship between subordinate assertiveness and perceived leader behavior and subordinate role-stress," Library Quarterly 54:170-199 (February 1984).

41. Marcia J. Nauratil, The Alienated Librarian, New Directions in Information Management Series, No. 20 (Westport, CN: Greenwood, 1989.)

42. Hallberg, Preliminary Stress Schedule Manual, 18-53.

43. Ralph Buros (ed.), Mental Measurements Yearbook (Highland Park, NJ: Gryphon, published since 1938.)

44. Hallberg, Preliminary Stress Schedule Manual, Form LP, pages 29-37. Even with the format difference between the Stress Schedule and the widely used State and Trait Anxiety

Inventory, a correlation of r.= .72 (at .05 level of significance) was found indicating a strong position relationship (p. 37).

45. American Library Directory, 40th ed., 1987-88 (New York, R. R. Bowker 1987) and Barron's Profiles of American Colleges (Woodbury, NY: Barron's Educational Series, 1987).